

---

## ■ Preface: Transportation System Challenges and Opportunities

*There is clear evidence that the performance of our nation's transportation system is declining. Our population has increased and spread from urban centers to outlying suburban "edge cities," resulting in more miles of passenger travel than ever before. Our economy has become dependent on the movement of raw materials and finished goods across state lines and international borders, resulting in more miles of freight travel than ever before. Much of this increased demand has been handled without corresponding increases in the capacity of our transportation infrastructure. As a result, our highways suffer from record levels of congestion, while our seaports, airports, and railroads attempt to cope with service demands at the limits of their capabilities.*

*Virginia shares fully in these national problems. It hosts the nation's 12<sup>th</sup> largest population and its 12<sup>th</sup> largest employment base, along with some of its most congested urbanized areas. It is one of the nation's leading gateways for international freight, and is a major through-route for domestic freight moving between the Northeast, Mid-Atlantic, Southeast, and Gulf Coast states. As Whittington Clement, the Virginia Secretary of Transportation, has noted:*

*"While the number of registered motor vehicles in the Commonwealth has increased by more than 50 percent since 1986, our new lane miles have grown only seven percent. Interstate 81 was designed to accommodate traffic flow with only 15 percent tractor-trailers. Today, heavy trucks account for 40 percent of traffic volume on some sections of that Interstate. And of the 1.8 million containers that will pass through the Virginia Port Authority's terminals in Hampton Roads this year, only 22 percent will reach their inland destinations by rail."*

*Virginia is undertaking ambitious projects to increase the safety, security, capacity, speed, and reliability of its transportation system. Major projects are underway at the Commonwealth's publicly owned airports and seaports. The Virginia Department of Transportation (VDOT) has a total budget of \$3.4 billion in 2004, and the Commonwealth Transportation Board is expected to adopt a six-year construction plan (effective July 1, 2004) of nearly \$6.0 billion.*

*But there are limits to what can be done under traditional models of delivering transportation improvements. In many cases, our ability to physically expand the transportation infrastructure is limited by physical, environmental, community, and/or cost constraints. Operational improvements, such as intelligent transportation systems (ITS) and advanced equipment, have helped the transportation system absorb major increases in traffic. But much of the system is at (or fast approaching) its maximum operating capacity, and we cannot avoid the need to provide new capacity. The problem is especially acute for Virginia's highways, many of which already operate at unacceptable levels of service for much of the day. Funds to accomplish needed highway improvements are limited and must increasingly be allocated to the growing costs of maintaining Virginia's existing system.*

*One innovative strategy to address this situation is to make better use of Virginia's railroad infrastructure as part of a coordinated multimodal transportation system in partnership with Virginia's highways. Rail is a critical part of the overall multimodal transportation system for*

*moving people and goods to, from, within, and through Virginia. In 2001, Virginia's railroads carried more than 189 million tons of freight and 3.6 million passengers, keeping up to 16 million auto and truck trips off Virginia's roads.*

*Today, rail provides a variety of public benefits. It reduces congestion and accidents on our highways, and delays the need for additional highway capacity; it provides a lower cost transportation alternative on which many Virginia residents and businesses depend; it reduces fuel consumption, air pollution, and dependence on imported oil; and it provides critical connections between Virginia's seaports and inland markets.*

*Tomorrow, rail could provide even greater benefits. If we provide the right types of services in the right locations, we can expect to move more people and goods by rail, and take even more cars and trucks off Virginia's highways. In many cases, investments in rail can provide more transportation, economic, and environmental benefits than equivalent investments in the highway system. Rail is by no means the whole answer to highway congestion, but it can be very effective in critical high-density corridors, and must be considered within a broader statewide multimodal investment strategy. To get the most out of Virginia's rail system, we will need to address a number of key challenges:*

- While much of Virginia's rail system is currently operating below capacity, there are significant chokepoints that must be eliminated for the entire system to operate more effectively. These include: mainlines; bridges and tunnels; height and weight clearances; connections; branch lines and "last mile" connectors; passenger and freight terminals and railyards; and information and control systems. These various needs of all Virginia railroads – passenger and freight, large and small – must be clearly understood and prioritized. Many of them are necessary just for the railroads to serve their current markets and customers; and if these needs are not met, current rail market share and volume are at risk.*
- Virginia's rail system is privately owned by freight railroads – Norfolk Southern Corporation (NS), CSX Transportation (CSX), and a variety of smaller local short-line and switching railroads. Virginia's current passenger railroads (Amtrak and the Virginia Railway Express [VRE]) operate over these private rights-of-way. Investment decisions by the freight railroads are geared toward meeting business objectives; in the past, this has often meant focusing on higher profit markets while shedding lower profit markets and infrastructure. To better align for-profit business objectives with public benefit purposes and maximize passenger and freight benefits, "win-win" scenarios must be identified and aggressively pursued, with the full commitment and partnership of both the private and public sectors.*
- There are substantial long-term rail funding needs within the Commonwealth. The Virginia State Rail Plan (VSRP) developed an unconstrained estimate of these needs – representing what would be desirable, should funds be available – of up to \$2.7 billion through 2010, and up to \$8.1 billion through 2025. Passenger-only and joint passenger-freight needs account for 81 percent of this total, while freight-only needs represent 19 percent.*
- Acting alone, neither the private nor the public sectors have sufficient capital for these investments. Some of these rail needs – those required to maintain existing systems, serve existing customers, or measurably increase near-term business – will probably be met by the railroads out of revenues. To meet other rail needs that produce significant public benefits but represent less desirable business investments, public participation probably will be required.*

- 
- *Federal support for rail improvements is limited. On the passenger side, Amtrak receives Federal allocations that are routinely less than its requested budget. VRE receives Federal Transit Administration (FTA) and Surface Transportation Program (STP) funds, which are supplemented by state and local funds. On the freight side, there are very few options. The Section 130 Rail-Highway Grade Crossing Program is the major rail grant program. Only a handful of rail improvements have been funded under other grant programs – National Highway System (NHS), STP, Congestion Mitigation and Air Quality (CMAQ), Borders and Corridors – because of limited eligibility. Two loan programs – Transportation Infrastructure Finance and Innovation Act (TIFIA) and Railroad Rehabilitation and Improvement Financing (RRIF) – provide credit assistance. The potential for increased Federal funding is unknown.*
  - *Virginia is currently funding a variety of rail projects under a one-time grant of \$65 million (from Virginia Transportation Act of 2000). But most states, including Virginia, do not have a dedicated, steady source of funds to invest in rail. Under Virginia's Transportation Trust Fund formula, 78.7 percent goes to highways, 14.7 percent to transit, 4.2 percent to the Virginia Port Authority, 2.4 percent to airports, and zero percent to rail. Virginia funding for passenger rail in Fiscal Year (FY) 2004 consists of \$13 million for the VRE in the form of capital assistance, formula assistance, transit trust funds, and local general funds. Virginia does not currently fund Amtrak, but a Federal proposal to make states responsible for Amtrak is being considered. Virginia funding for rail freight programs (Rail Preservation and Industrial Access) is limited to \$5.0 million to \$6.0 million annually, appropriated every two years by the General Assembly.*

*To further explore rail's potential to serve Virginia's passenger and freight needs, Governor Warner recently issued Executive Order Number 71, which establishes the Governor's Commission on Rail Enhancement for the 21<sup>st</sup> Century. The Commission is tasked with reviewing the VSRP and a recent study of a Rail Transportation Development Authority and with making recommendations for enhancing rail service and infrastructure in the Commonwealth.*

*As a first step in this process, the VSRP describes an overall vision for the Commonwealth's rail system, provides important baseline data on system conditions and system needs, and lays out key policy choices regarding the critical issues of governance and funding. As we see it, there are two potential public policy tracks: either move forward and invest in rail as a cost-effective means of improving the capacity and performance of Virginia's multimodal transportation system; or stand still and fail to invest in rail, foregoing this opportunity to make systemwide improvements, and possibly even losing the significant benefits that rail provides today.*

---

## ■ The Virginia State Rail Plan – Process and Goals

To clearly articulate the challenges and opportunities associated with Virginia’s railroads, the Virginia Department of Rail and Public Transportation (DRPT) has developed this *Virginia State Rail Plan*. The VSRP is intended to:

- Place critical information about freight rail and passenger rail issues, needs, choices, costs, and benefits within a larger public policy context;
- Effectively communicate these messages to a wide range of potential audiences; and
- Develop a plan for rail transportation for Virginia for the period 2004-2025.

The VSRP addresses:

- Public and private rail system elements, including intercity passenger, commuter, and freight rail;
- System condition and investment needs;
- Alternative investment scenarios, including needs, priorities, and tradeoffs; and
- Mobility, economic growth, and other critical issues.

The VSRP is not intended to define funding responsibilities or commitments, offer benefit-cost or impact assessments, or address rail mass transit projects. These are critically important issues that need to be addressed on a project-by-project basis. The VSRP is intended to provide an overall framework and guiding policy context for strategic actions to realize the full potential of passenger and freight rail transportation.

The VSRP benefits from the involvement and input of various technical advisors, including: Virginia’s current operating railroads (VRE, Amtrak, CSX, NS, and 10 local short-lines and switching railroads); partner agencies (VDOT, the Virginia Ports Authority, and the Virginia Department of Aviation); Virginians for High-Speed Rail; Committee for the Development of the TransDominion Express (TDX); and other interested parties.

The VSRP builds upon a number of related efforts. These include: Virginia DRPT’s *Rail Needs Assessment and Six-Year Plan*; Virginia DRPT’s *Rail and Public Transportation and Travel Demand Management (TDM) Needs Assessment and Six-Year Plan and Program*; and the *VTrans2025* multimodal statewide planning effort. *VTrans2025* was initiated by Virginia’s transportation agencies at the direction of the General Assembly and provides an overall multimodal vision and framework for long-range transportation planning.

Working from established *VTrans2025* goals, the VSRP establishes an overall rail vision and related rail system goals, as shown in Tables 1 and 2 on the following page.

**Table 1.     *VTrans 2025 Goals***

---

<b>Safety and Security</b> Provide a safe, secure, and integrated transportation system that reflects different needs of the Commonwealth.
<b>System Management</b> Through technology and more efficient operations, preserve and manage the existing transportation system.
<b>Intermodalism and Mobility</b> Facilitate the efficient movement of people and goods and expand choices and improve interconnectivity of all transportation modes.
<b>Economic Competitiveness</b> Improve Virginia’s economic vitality and provide access to economic opportunities for all Virginians.
<b>Quality of Life</b> Improve the quality of life for Virginians and the coordination of transportation, land use, and economic development planning activities.
<b>Program Delivery</b> Improve program delivery.

---

**Table 2.     *Virginia State Rail Plan Vision and Goals***

---

<b>Virginia’s Rail Vision</b>	Virginia’s freight and passenger rail system will provide efficient, competitive, and secure transportation of people and goods through preservation and enhancement of existing service and infrastructure, and collaborative planning and implementation of new services.
<b>Rail System Goals</b>	<p><u>Promote:</u></p> <ul style="list-style-type: none"><li>• Safety and security</li><li>• State of good repair</li></ul> <p><u>Improve:</u></p> <ul style="list-style-type: none"><li>• System management</li><li>• System capacity, reliability, and speed</li><li>• Intermodalism, connectivity, and mobility</li><li>• Virginia’s economic competitiveness and quality of life</li></ul> <p><u>Support:</u></p> <ul style="list-style-type: none"><li>• Virginia DRPT public-private partnership efforts and program delivery<ul style="list-style-type: none"><li>– Public Transportation Systems</li><li>– Commuter Assistance Agencies</li><li>– Rail Industrial Access Projects</li><li>– Short-line Rail Preservation Projects</li><li>– High-Occupancy Vehicle (HOV) Systems</li><li>– Commuter Rail</li><li>– Special Projects</li></ul></li></ul>

---

## ■ Virginia's Rail System

### System Overview

Virginia's rail system is operated by 14 separate railroads – 12 freight railroads plus two passenger railroads. Of the 12 freight railroads, two are Class I national railroads (line-haul freight railroads exceeding \$266.7 million in annual operating revenue) and nine are Class III railroads (line-haul carriers operating less than 350 miles of track with annual revenues less than \$40 million). Switching and terminal railroads primarily operate switching and/or terminal services for the line-haul railroads.

**Table 3. Railroads Currently Operating in Virginia**

Freight Railroad Name	Abbreviation	Class I	Class III	Terminal/ Switching
Buckingham Branch Railroad Company	BB		X	
Chesapeake & Albemarle Railroad Company	CA		X	
Chesapeake Western	CW		X	
Commonwealth Railway, Inc.	CWRY		X	
CSX Transportation	CSX	X		
Eastern Shore Railroad	ESHR		X	
Norfolk & Portsmouth Belt Line Railroad Company	NPB			X
Norfolk Southern Corporation	NS	X		
North Carolina & Virginia Railroad Company	NCVA		X	
Shenandoah Valley Railroad	SV		X	
Virginia Southern Railroad	VSRR		X	
Winchester & Western Railroad	WW		X	

Passenger Railroad Name	Abbreviation	Intercity	Commuter
Amtrak	AMT	X	
Virginia Railway Express	VRE		X

**Figure 1. Virginia Railway Express**



**Figure 2. Amtrak at Richmond's Main Street Station**



**Figure 3. Norfolk Southern Corporation**



**Figure 4. CSX Transportation**

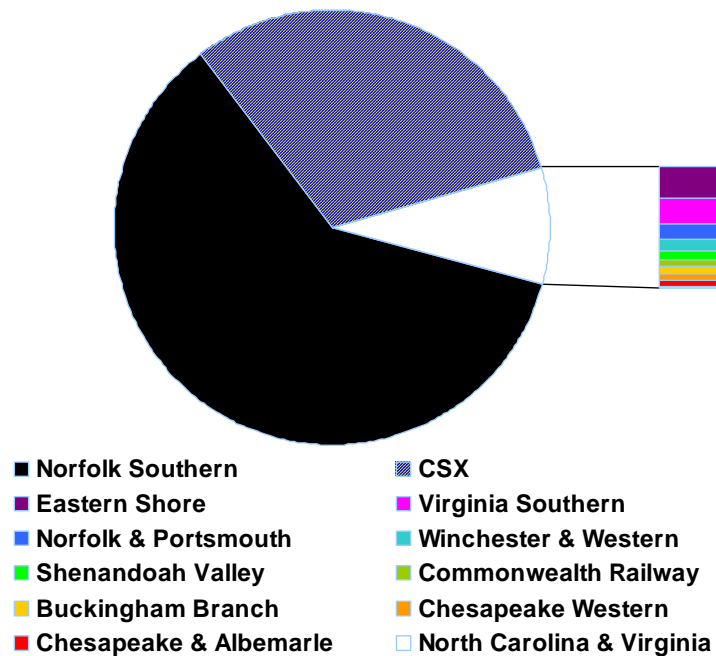


**Figure 5. Buckingham Branch Railroad Company, One of Virginia's Short-lines**



The system includes approximately 3,400 miles of track throughout the Commonwealth. All of the track is owned by the freight railroads. The passenger railroads operate over freight tracks under use agreements with the freight railroads. The system also includes freight rail yards and passenger rail yards and stations. Of this 3,400-mile system, more than 2,000 miles (around 60 percent) is owned by NS and more than 1,000 miles (around 30 percent) is owned by CSX. The Commonwealth's 11 short-line/switching railroads own less than 10 percent of system mileage, as shown in Figure 6 below.

**Figure 6. Virginia Rail System Ownership**



Virginia rail system mileage has actually declined since 1910 (Figure 7), while Virginia highway system mileage has grown tremendously over the same period (Figure 8). This reflects fundamental national changes in freight markets and transportation systems. In the late 1800s and early 1900s, rail systems emerged as a viable alternative to river and ocean transport, and grew rapidly to serve the nation's expanding industrial base. By the mid-1900s, the nation's highway system evolved to the point where railroad access was less essential – in many cases, trucks could do the job better. At the same time, the industries that rely most heavily on trucking (those moving time-sensitive, higher value goods) grew rapidly, while the industries that rely most heavily on rail (lower value, higher weight, less time-sensitive commodities such as coal, lumber, and chemicals) grew slowly. Freight railroads have responded in three ways: by focusing on service and reliability for their core customers; by partnering with seaports and the trucking industry to serve new higher value markets, such as automobiles and intermodal shipping containers; and by shedding lower profit lines and services.

Figure 7. Virginia Rail System Mileage, 1870-1990

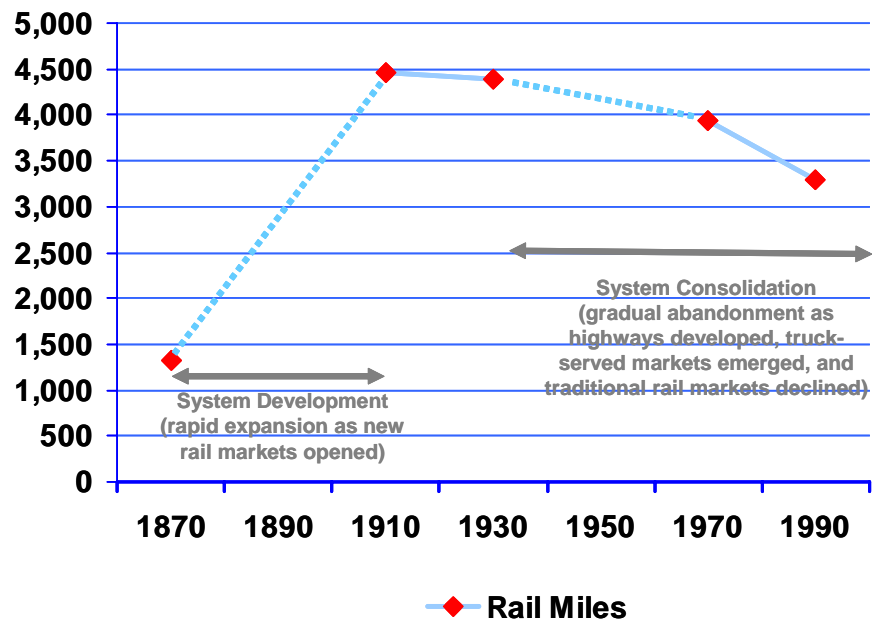
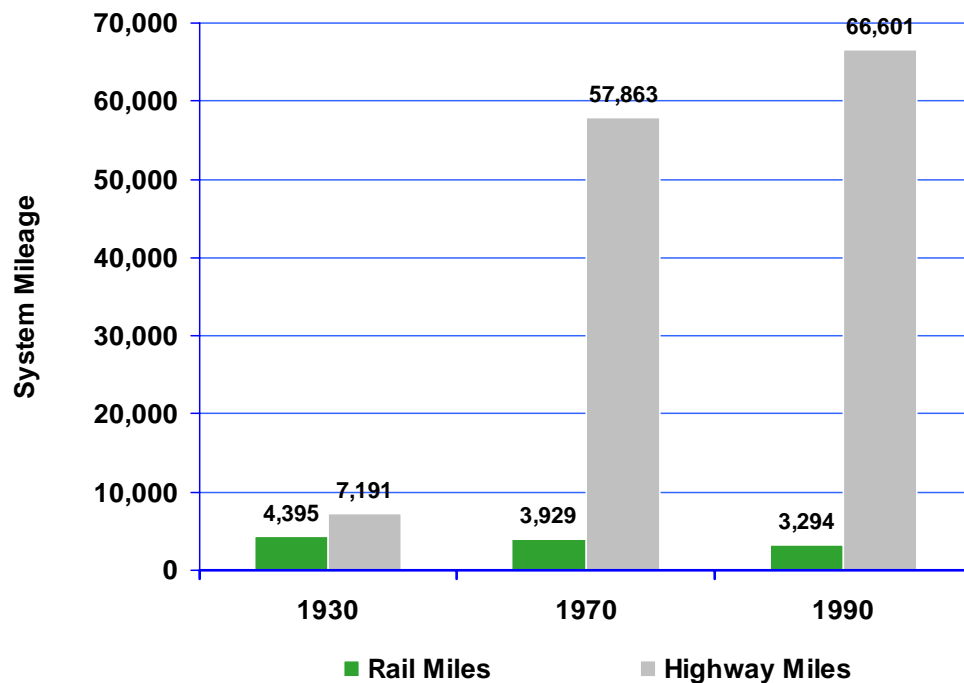


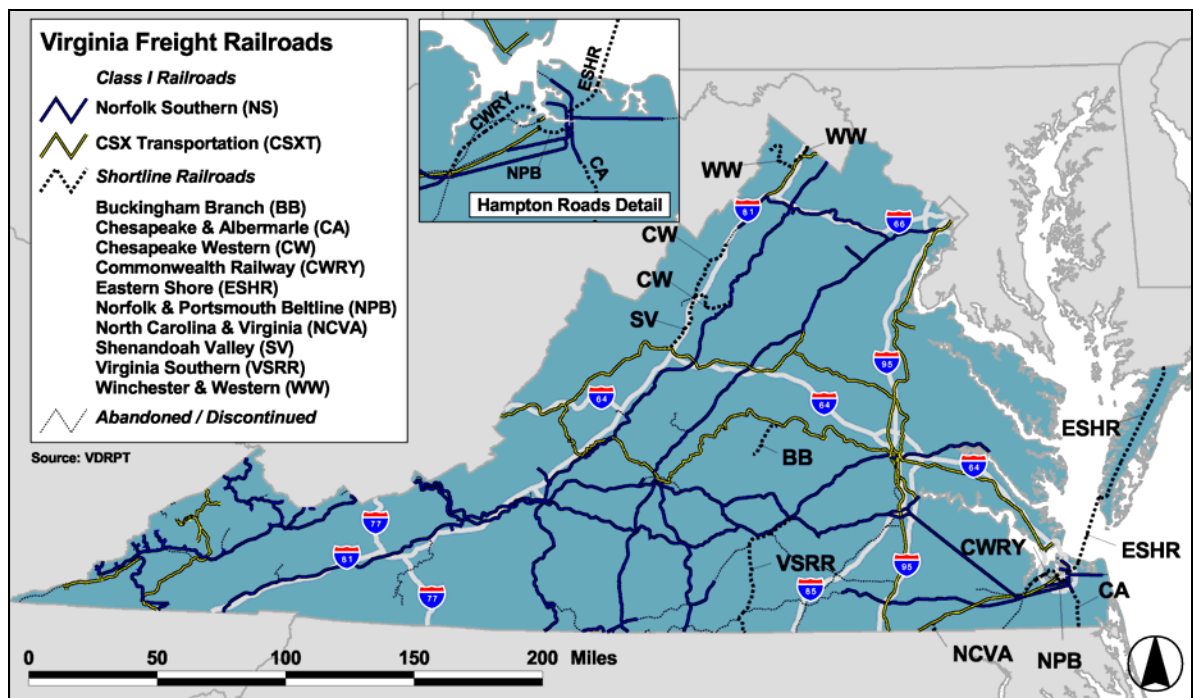
Figure 8. Virginia Rail System and Highway System Mileage, 1930-1990



## Freight Rail Profile

In 2001, freight railroads hauled around 189 million tons of freight to, from, within, and through Virginia, in the form of intermodal containers (around 430,000 units) and other railcar types (around 1,790,000 units). Despite the long-term decline in system mileage, tons originating in or destined for Virginia (excluding through traffic) have increased over the last decade, from 98 million tons in 1994 to 109 million tons in 2002.

**Figure 9. Virginia's Freight Railroad Network (by Owner)**



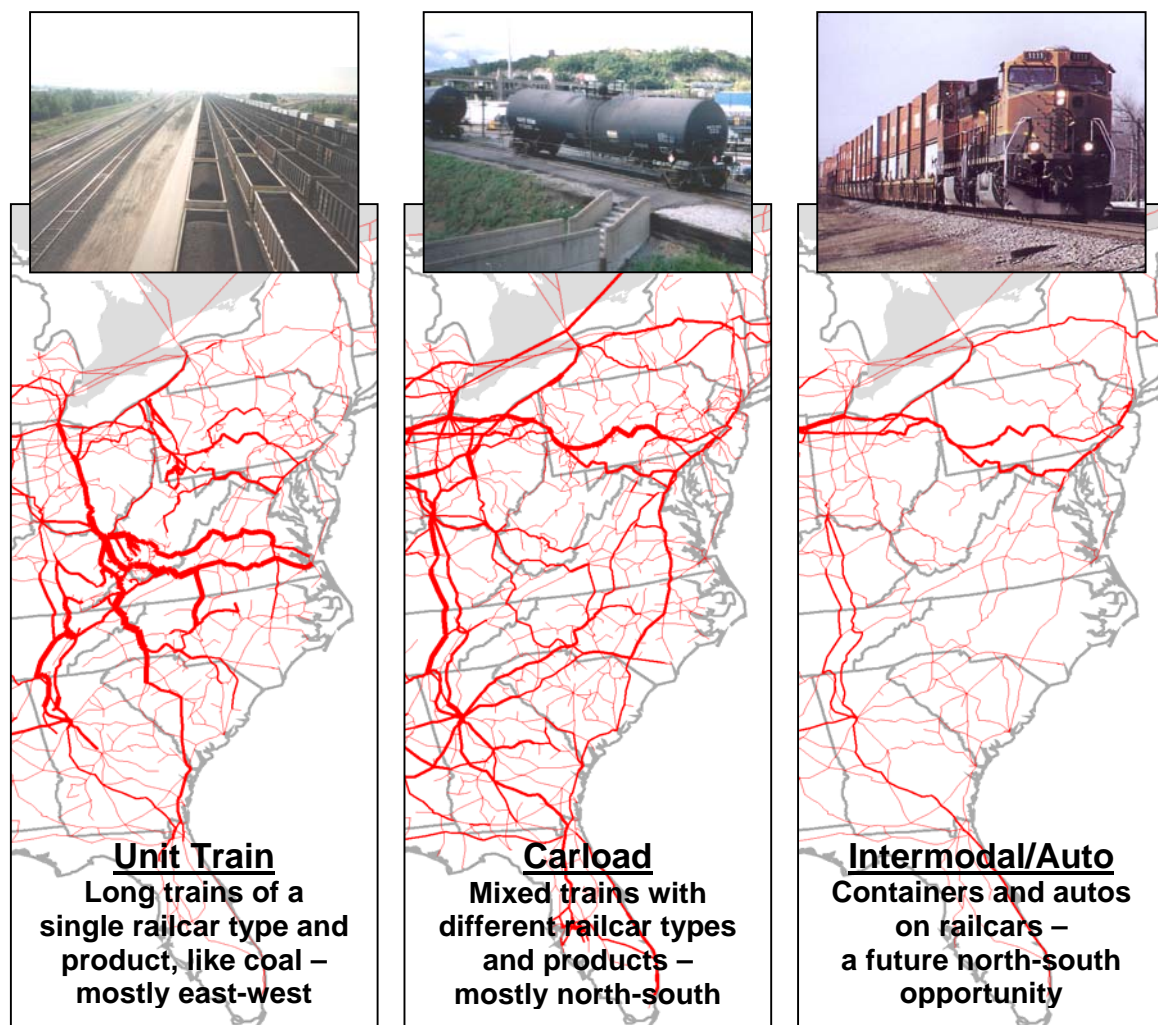
Virginia's rail network clearly has a bi-directional character. CSX has a major north-south route paralleling I-95, while NS has two north-south routes paralleling I-81. Both offer major east-west connections between Hampton Roads and West Virginia/Kentucky/Tennessee. Along with the Commonwealth's 3,400 miles of track, the freight railroads operate an extensive network of railyards and intermodal rail terminals (for the transfer of containers between rail and other modes), including the Virginia Port Authority's Virginia Inland Port at Front Royal.

Virginia's rail freight traffic can be generally classified as:

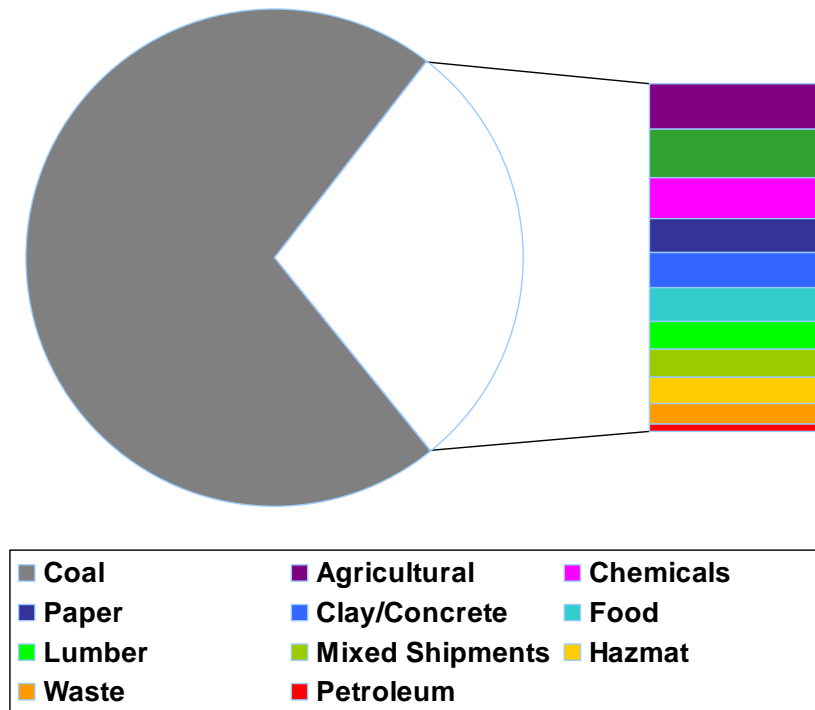
- **Unit Train** (long trains consisting of a single commodity, like coal). On a tonnage basis, coal accounts for more than two-thirds of all Virginia rail freight traffic. Most of this is moving east-west, between the coalfields of Appalachia and Hampton Roads, or between the coalfields and Tennessee/North Carolina. About half of the coal moving over Virginia's rail system is through traffic.

- **Carload** (trains of different lengths, consisting of different commodities and car types, such as tank cars, hopper cars, flatcars, or traditional boxcars). Carload traffic (agricultural products, chemicals, paper, lumber, food, etc.) represents more than 25 percent of Virginia tonnage, and moves primarily in the north-south direction, paralleling I-95 and I-81. Like coal, about half of this is through traffic.
- **Intermodal/Auto** (long trains consisting of specialized railcars designed to carry intermodal shipping containers or automobiles). Intermodal containers represent around 19 percent of Virginia's rail freight traffic on a per-unit basis, but only three percent on a per-ton basis, because containers tend to carry lower weight, higher value commodities. Intermodal traffic moves both north-south and east-west over Virginia's rail network. Around half is moving between Virginia origins and destinations (Virginia Port Authority facilities and other intermodal terminals) and Illinois, where it may interchange with the western Class I carriers. The remainder consists mostly of through traffic in the Florida-New Jersey and Illinois-North Carolina corridors.

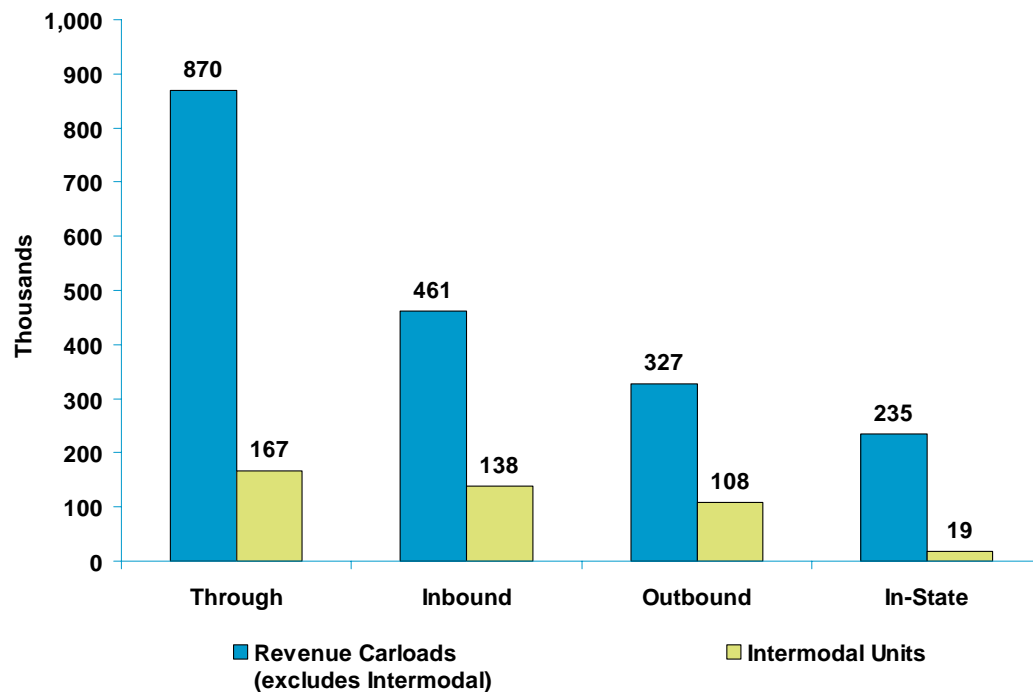
**Figure 10. Virginia's Freight Rail Traffic by Line (in Tons), 2001**



**Figure 11. Virginia's Freight Rail Traffic by Commodity (in Tons), 2001**



**Figure 12. Virginia's Freight Rail Traffic by Handling Type, 2001**

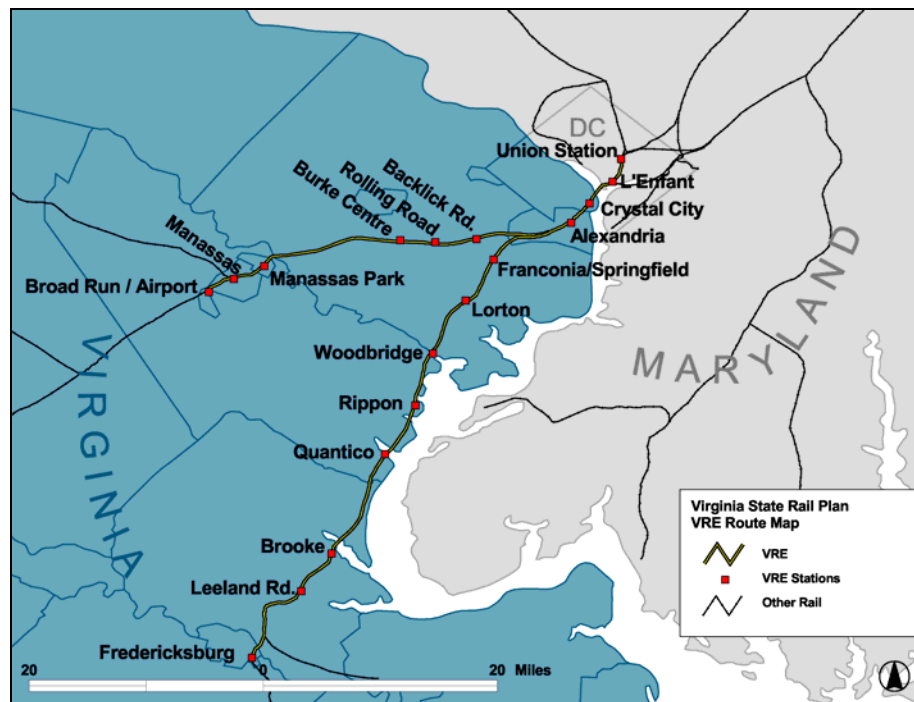


## Passenger Rail Profile

There are currently two passenger railroads – VRE and Amtrak – operating on approximately 616 miles of track in Virginia. In 2002, they carried approximately 3.8 million passengers over this system – 3,061,169 on VRE, and 815,045 on Amtrak. These figures do not include ridership on the Washington Metropolitan Area Transit Authority's (WMATA's) Metrorail system in Northern Virginia.

VRE operates passenger trains on an 80-mile system connecting Washington, D.C., with Fredericksburg and Manassas, Virginia. From Union Station in the District of Columbia, the Fredericksburg and Manassas lines share the same right-of-way for approximately 9.6 miles, to a point just south of Alexandria, Virginia, where they diverge. In Virginia, VRE is a tenant over the NS (to Broad Run) and CSX (to Fredericksburg) systems, and contracts with Amtrak to operate the trains. VRE is operated today with a fleet consisting of 19 locomotives and 68 active passenger coaches.

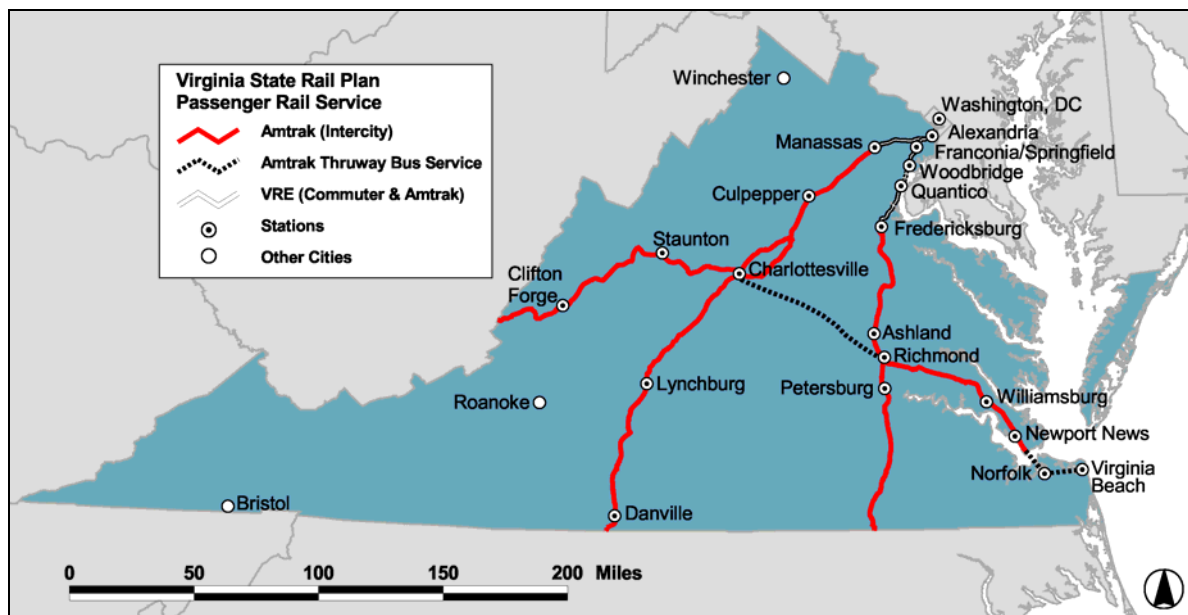
**Figure 13. Virginia Railway Express Service Network**



Amtrak's Northeast Corridor (NEC) regional service runs from Boston to Richmond-Newport News in both the southbound and northbound directions. Within Virginia, the NEC service comprises 184 miles, and includes stops at Alexandria, Franconia/Springfield, Woodbridge, Quantico, Fredericksburg, Ashland, Richmond, Williamsburg, and Newport News. A total of 27 train trips each week are made in the southbound direction, while a total of 28 trips per week are made in the northbound direction. Other Amtrak services within Virginia include:

- **Chicago-Indianapolis-Louisville-Cincinnati-Washington (Cardinal service)** - The Cardinal route from Washington, D.C., to Chicago includes 228 miles that traverse Virginia, with stops in Alexandria, Manassas, Culpepper, Charlottesville, Staunton, and Clifton Forge. Westbound and eastbound trains operate three times a week.
- **New York-Washington-Raleigh-Jacksonville (Silver Meteor/Silver Star/Palmetto service)** - This Amtrak route includes 175 miles in Virginia, with stops at Alexandria, Quantico, Fredericksburg, Richmond, and Petersburg. Three southbound and three northbound trains operate each day along this route, resulting in 21 weekly northbound and 21 weekly southbound trips.
- **Lorton-Sanford (Auto Train service)** - The Auto Train is a direct, non-stop service from Lorton, Virginia, to Sanford, Florida. The Auto Train only allows passengers with automobiles (including vans) or motorcycles, and operates one southbound and one northbound train daily. This Amtrak route includes 159 miles in Virginia.
- **New York-Washington-Raleigh-Charlotte (Carolinian service)** - The Carolinian service traverses 175 miles in Virginia, with stops in Alexandria, Quantico, Fredericksburg, Richmond, and Petersburg. One train trip is made daily in the northbound and southbound directions.
- **New York-Washington-Charlotte-Atlanta-New Orleans (Crescent service)** - The Crescent service includes 228 miles in Virginia, with stops in Alexandria, Manassas, Culpepper, Charlottesville, Lynchburg, and Danville. One southbound and one northbound train operate daily.

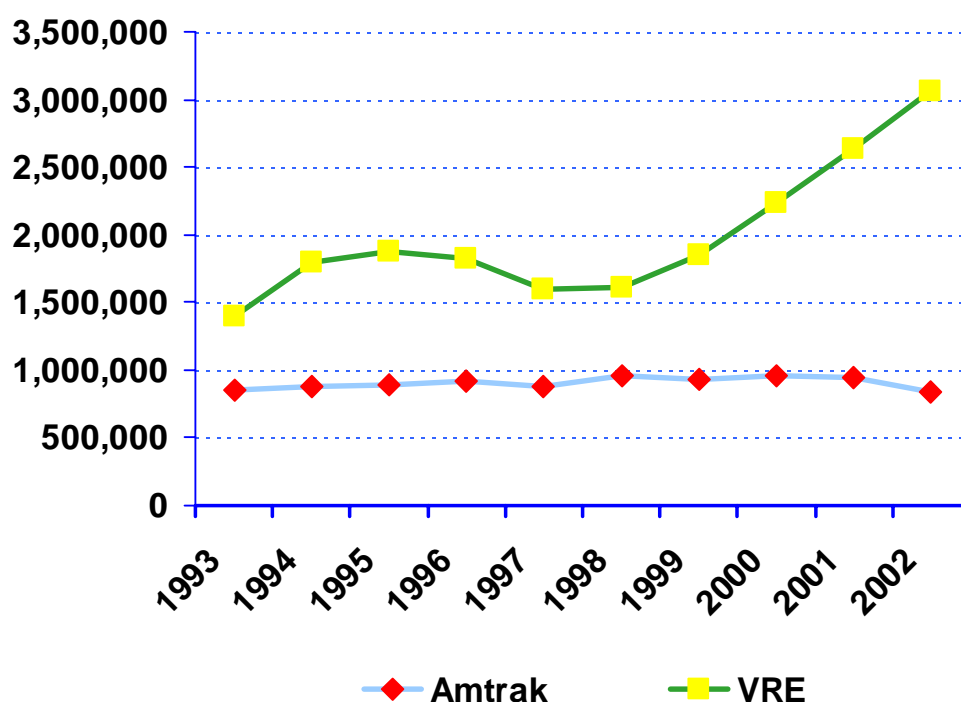
**Figure 14. Amtrak's Virginia Service Network**



Since 1993, daily VRE ridership has more than doubled – from 6,500 trips per day (November 1993) up to an estimated 14,000 trips per day (September 2003). In 2002, ridership topped 3.0 million for the first time. As population along the VRE corridors increases and highway performance continues to deteriorate, VRE is likely to play an even greater role in meeting Northern Virginia’s mobility needs in the future.

However, over the same period, total Amtrak ridership in Virginia has been relatively flat within the range of 800,000 to 950,000 riders per year. Four stations (Richmond, Lorton, Newport News, and Alexandria) account for around 75 percent of Amtrak boardings and alightings in Virginia. Many believe that Amtrak’s inability to grow its ridership – especially in higher density corridors such as Richmond-Washington, D.C., and Hampton Roads-Richmond – is because of issues of reliability, service speed, and service availability. If rail performance can be improved on these routes, then substantial ridership increases are possible.

**Figure 15. VRE and Amtrak Annual Passenger Trips, 1993-2002**



## ■ Public Benefits and Emerging Opportunities

### Virginia's Existing Rail System

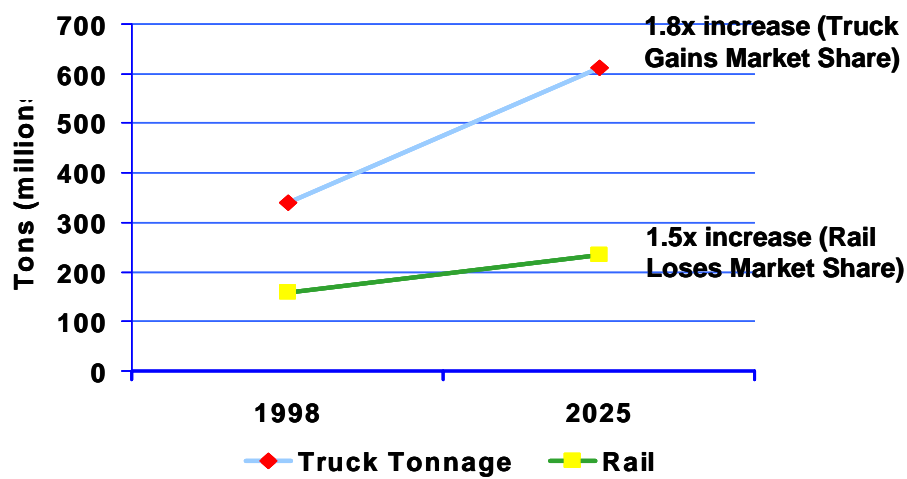
Virginia's existing passenger and freight rail transportation services provide substantial public benefits in the form of:

- Fewer auto trips on Virginia's highways. In 2001, the railroads moved more than 3.6 million passengers. At 1.1 passengers per vehicle, it would take 3.2 million car trips to move this many people. VRE estimates that its weekday service provides the same capacity as an additional peak-direction freeway lane to and from Washington, D.C.
- Fewer truck trips on Virginia's highways. A single intermodal train can take around 280 trucks off the road, while a carload train can take 500 trucks off the road. In 2001, the railroads hauled 189 million tons of freight to, from, through, and within Virginia. At 15 tons per truckload, it would take 12.6 million annual truck trips (around 38,000 to 40,000 per day) to move this much freight. If railroad service were not available, some of these trips might not happen – but many of them would. We can make a ballpark estimate of the equivalent Virginia lane miles saved by the freight railroads as follows:
  - 189 million annual tons / 300 truck operating days per year = 630,000 tons per day.
  - 630,000 tons per day / 15 tons per truck = 42,000 equivalent truckloads.
  - 42,000 truckloads x 10% of daily trips in peak hour = 4,200 peak-hour trucks.
  - 4,200 peak-hour trucks / 1,000 trucks per lane (freeway capacity, no cars) = 4.2 lanes.
  - 4.2 lanes x 200 freeway miles in Virginia per trip (estimated) = 840 freeway lane-miles.
- Improved air quality and reduced use of fossil fuels. For every ton-mile of freight, rail produces around one-third the particulate matter and nitrogen oxide emissions of trucking.
- Improved safety. By reducing congestion on critical highway segments, rail also contributes to lower accident rates and increased safety. Rail is the safest mode for hazardous materials shipments, with substantially fewer (1/16<sup>th</sup>) hazmat releases than trucking.
- Improved mobility and choice for Virginia's commuters. In comparison to driving and parking costs, passenger rail can be a more affordable alternative. Passenger rail also provides an alternative during periods of inclement weather, when highways become clogged. Reliable passenger rail service is a "safety net," providing positive redundancy in the Commonwealth's transportation system.

- Lower costs and better choices for Virginia freight shippers and receivers. On a per ton-mile basis, rail can be one-half to one-fourth the price of truck. These cost savings can be passed on to the end users, or reinvested in labor and capital, producing additional economic benefits to the Commonwealth. For many industries, rail transportation is essential for their businesses. For others, while rail may not be essential, it is highly desirable to have a viable alternative to trucking. A safe, reliable, cost-effective rail freight system therefore supports the Commonwealth's ability to retain existing industries, and to attract new ones.
- Critical linkages for Virginia's international seaports. The availability of low-cost rail connections between seaports and their inland markets is critical, not only for traditional rail commodities like coal, but also for high-value containerized goods, which move on "double-stack" trains. Seaports that can offer their customers excellent inland rail connections have a significant competitive advantage in retaining and growing their traffic. The Virginia Port Authority's Virginia Inland Port at Front Royal provides a transportation benefit (better connectivity to the seaport without using a truck), as well as an economic benefit (incubation of warehouse/distribution activity).
- Support for military mobilization and the positioning of equipment and supplies. Rail provides vital transportation services to the nation's military.

Clearly, these are significant public benefits. One important goal is to ensure that these public benefits are not lost because of inaction or inattention to the physical or operational conditions of Virginia's railroads. VRE ridership is forecast to grow, but there are serious questions about Amtrak's current service. Also, while the freight railroads are projected to grow their overall businesses in terms of absolute volume, they are projected to lose market share to trucks, because the industries that typically prefer to use trucks are growing faster than the industries that prefer to use rail.

**Figure 16. Forecast Changes in Freight Tonnage and Market Share**



Source: USDOT Freight Analysis Framework

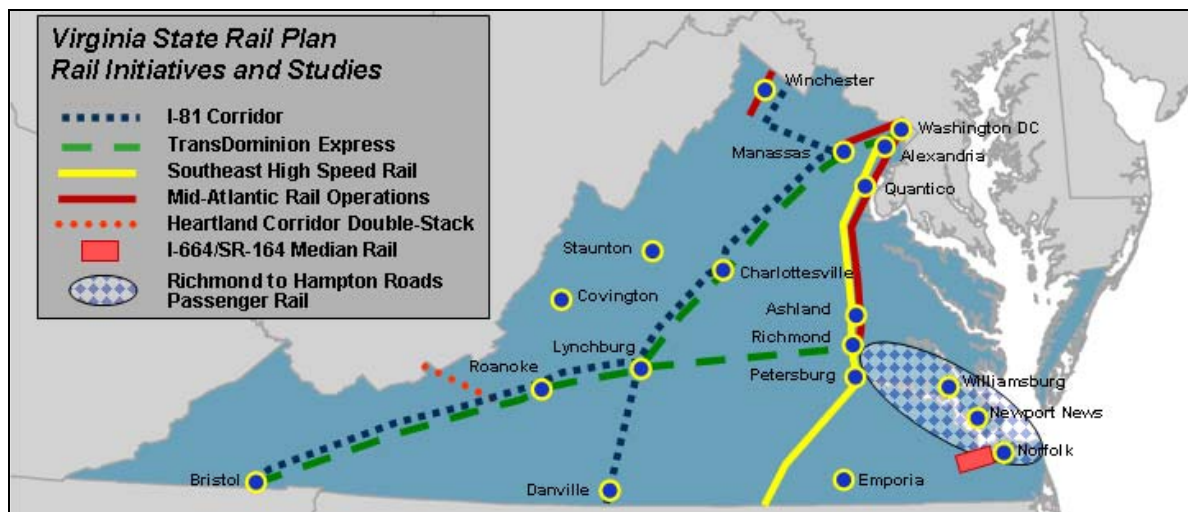
To capture their “fair share” – and hopefully more – of Virginia’s passenger and freight demand, Virginia’s railroads will require a variety of investments to:

- Ensure safety and security. This includes elimination of at-grade rail crossings and other measures designed to safeguard life and property.
- Maintain the system in an overall state of good repair.
- Replace and upgrade system elements where necessary. This includes upgrading rail lines to accommodate 286,000-pound railcars. It also includes improving bridges and tunnels, mainlines, yards, terminals, stations, control systems, rolling stock, and other equipment.
- Provide new capacity and improve reliability, speed, and service availability. This includes major rail initiatives for new infrastructure, new services, and/or major improvements to existing systems and services. It also includes preservation of existing rail rights-of-way for potential future services.

## Virginia’s Major Rail Initiatives

There are major opportunities to dramatically improve rail operations for both freight and passengers that would provide significantly higher levels of public benefit to the Commonwealth. These initiatives are in various stages of planning, and have involved many parties – the railroads, Virginia DRPT and other Virginia agencies, local/regional governments, public advocacy groups, other states, and the Federal government. Some of these key initiatives are described below.

**Figure 17. Virginia Rail Initiatives and Studies**



---

### ***I-81 Corridor Rail Initiative***

At the direction of the Virginia General Assembly, Virginia DRPT has been examining the I-81 corridor, which is one of the nation's most heavily used truck routes. Trucks account for about 40 percent of the traffic on I-81, and around 60 percent of these trucks are simply passing through Virginia. Two I-81 initiatives are currently being studied. One is to develop truck toll lanes on I-81; the other is to upgrade the capacity and operation of the NS rail service paralleling I-81.

Automobile and truck traffic will continue to grow on I-81, and nothing is expected to change that. However, work to date suggests that I-81 rail system improvements could successfully divert anywhere from five percent to 28 percent of truck traffic from the highway, depending on the level of public investment in required improvements. This would help reduce the size of the problem that highway improvements will need to solve. Rail investment benefits would be realized in the following areas:

- Multimodal transportation system safety, security, capacity, speed, and reliability;
- Highway congestion, highway user costs, and highway improvement needs;
- Fuel efficiency and emissions; and
- Industry competitiveness.

The overall systemwide benefit from implementing both initiatives together would be greater than implementing either of them alone. Virginia is currently negotiating with a team (STAR Solutions) regarding a public/private partnership to implement the highway improvements, and NS has proposed a rail intermodal pilot program that would divert about 518,000 trucks off I-81, an approximate diversion of 10 percent.

The rail initiative raises a number of important policy questions. Given that the I-81 rail corridor is part of a multistate long-haul service network, what is the appropriate tradeoff between "Virginia only" and multistate investments? What are the appropriate levels of public/private cost sharing? How do we evaluate tradeoffs between potential investments in highways and potential investments in rail? How do we protect public investments in private railroad systems?

### ***Mid-Atlantic Rail Operations Study***

Virginia is partnering with the states of Maryland, Delaware, Pennsylvania, and New Jersey, along with the I-95 Corridor Coalition and three railroads (Amtrak, NS, and CSX) to conduct the Mid-Atlantic Rail Operations Study (MAROps). For the past two years, MAROps has examined the operational efficiency and capacity of the rail lines parallel to I-95 and I-81, with the goal of identifying strategies to increase the efficiency and attractiveness of rail (for both passengers and freight) and reduce pressure on I-95, I-81, and other major multistate highway corridors. MAROps has recommended a 20-year, \$6.2 billion (\$1.3 billion in Virginia) public-private investment program to implement 71 "chokepoint" elimination projects in five states. The MAROps projects supplement the improvements that are envisioned under the I-81 program.

---

A recently completed Initial Benefit Assessment of the program estimated that the \$6.2 billion program would generate more than \$12 billion in benefits over the five states. These benefits consist of: reduced congestion and travel-related costs; improved highway safety and air quality; reduced shipper costs; and related “multiplier” economic benefits throughout the economy. A Supplemental Benefit Assessment is expected to address the issue of “substitution benefits” – that is, how much highway construction could be avoided or delayed by investing in rail. The MAROps program offers the same types of benefits as the I-81 rail program, and raises the same types of public policy issues.

### ***Heartland Corridor Double-Stack Initiative***

The West Virginia DOT and the Appalachian Transportation Institute at Marshall University in Huntington, West Virginia, recently examined existing east-west rail routes to determine the needs and potential to accommodate intermodal double-stack train service. The study estimated that upgrading an existing coal route to handle double-stack containers moving between Norfolk and the Midwest would cost between \$46 million and \$111 million (\$21 million in Virginia), but would generate benefits of between \$200 million and \$350 million over a 20-year period.

### ***I-664/Route 164 Median Rail Proposal***

In the Tidewater area, the Commonwealth has set aside right-of-way and is planning a seven-mile rail link to provide rail service to the future port developments lying on a land and water area between Craney Island and Route 164. The line would be constructed in portions of the highway median of I-664 and State Route 164. By providing port development with rail freight access, the project offers an alternative to truck-only service, benefiting port users (in the form of greater transportation choices and lower costs) and the surrounding transportation system (by reducing reliance on truck).

### ***Virginia Railway Express Strategic Plan***

The VRE strategic plan calls for a continued expansion of service to serve strong ridership growth in the Washington, D.C. suburbs of Northern Virginia. Many of the improvements affecting VRE are encompassed in the MAROps report for the NS line extending west from Alexandria, Virginia, to Manassas and for the CSX line extending south from Washington, D.C., to Richmond. This would support a substantial increase in VRE ridership by 2010, going from a current average of 14,000 trips per day up to a target of 18,000 trips per day.

### ***Southeast High-Speed Rail Corridor and Richmond to Hampton Roads Passenger Rail***

The Southeast High-Speed Rail Corridor (SEHSR), one of five Federally designated high-speed rail routes in the country, would extend high-speed rail service south from Washington, D.C., to Richmond, Virginia, and on to Raleigh and Charlotte, North Carolina. The public transportation divisions of the North Carolina, South Carolina, and Georgia DOTs have joined together to form a four-state coalition to plan, develop, and

---

implement the SEHSR. Within Virginia, the SEHSR program proposes improvements in three different corridor segments – Washington, D.C., to Richmond; Richmond to Petersburg; and Petersburg to the North Carolina state line. A Tier I (program level) Environmental Impact Statement (EIS) was recently completed on the entire corridor between Washington, D.C., and Charlotte, North Carolina. A Tier II EIS on the segment of the corridor between Petersburg and Raleigh, North Carolina, was initiated during the spring of 2003. Benefits of extending high-speed rail are likely to include: faster, more reliable service; increased ridership and diversion from automobile; and reduced highway impacts.

In 1996, Virginia DRPT successfully petitioned the U.S. DOT to designate an extension of the SEHSR corridor from Richmond to Hampton Roads. Virginia DRPT has been studying two possible alternatives for this service. One option is to provide service on the CSX line that parallels I-64 down the peninsula, which currently accommodates Amtrak service to Williamsburg and Newport News. The second option is for trains to travel south from Richmond to Petersburg, and then connect to the NS line that parallels U.S. Route 460 and terminates in Norfolk. Feasibility studies of higher speed rail service have been completed for both lines. The I-64 Major Investment Study, which was completed by VDOT in 1999, includes recommendations for double tracking the entire rail corridor, increasing the maximum train speed to 110 mph, and increasing the frequency to eight round trips per day. In 2002, a feasibility study of high-speed rail service in the Route 460 rail corridor was completed, and similar recommendations for implementing high-speed rail service were made. Like the SEHSR, the benefits of extending high-speed rail are likely to include: faster, more reliable service; increased ridership and diversion from automobile; and reduced highway impacts.

### ***Main Street Station Initiative***

The effort to renovate Richmond's historic Main Street Station is key to the development of high-speed passenger service to the center of Virginia's capital, and also represents an important community development initiative. In addition to the restoration of the station edifice, this important initiative shares some of the track infrastructure needs outlined in the MAROps study. Significant future investment will be needed for this facility to function as a true multimodal center.

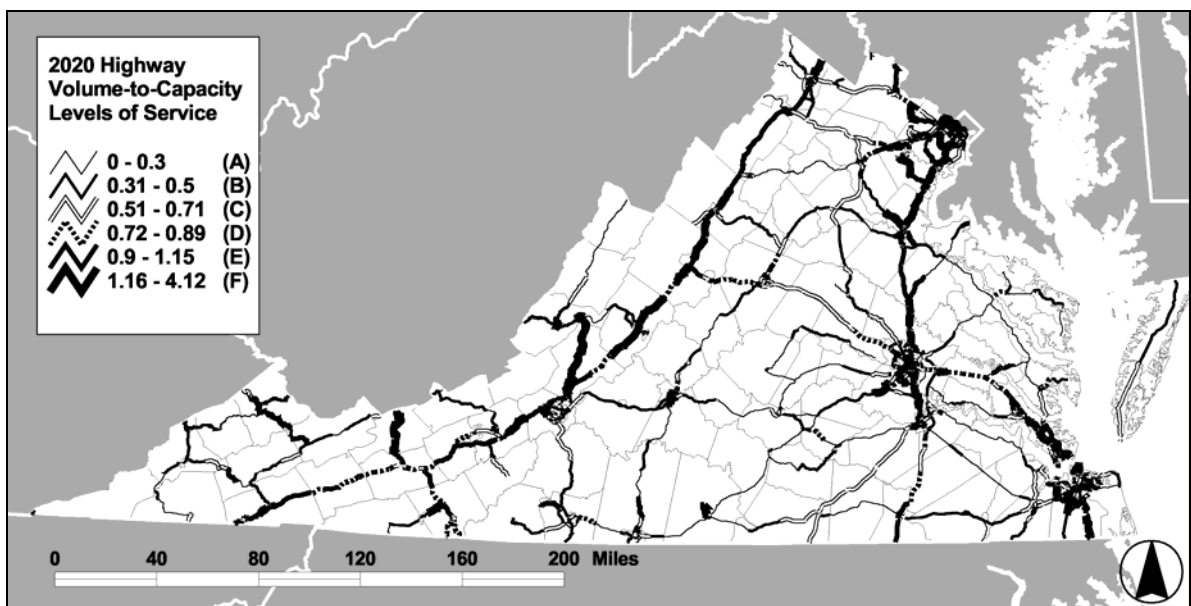
### ***Bristol to Richmond and Washington, D.C. (TransDominion Express)***

Several reports have been prepared evaluating the potential of operating rail passenger service between Bristol to Richmond and Washington, D.C. The proposed service, known as the "TransDominion Express" (TDX), would link Southwestern Virginia to Richmond via Lynchburg, and Southwestern Virginia to Washington, D.C., via Lynchburg and Charlottesville. Such a service would provide improved transportation connectivity, passenger choice, and economic development opportunity. Some of the improvements needed for TDX will be accomplished as joint passenger-freight benefits under the I-81 rail initiative.

## Impact of Rail Initiatives on Virginia's Highways

The Federal Highway Administration (FHWA), as part of its Freight Analysis Framework project, developed a forecast of traffic conditions in 2020 for the national highway system. The forecast shows that in the absence of highway improvements, huge portions of Virginia's critical interstate highway system – particularly I-81, I-95, and I-64 – will operate at unacceptable levels of service (“E” or “F,” corresponding to highly congested, low-speed, “stop-and-go” driving conditions).

**Figure 18. Projected Peak Hour Highway Conditions, 2020**



This “worst-case” scenario is unlikely to materialize exactly as shown, because highway investments will certainly be made. However, the pace of new highway construction in Virginia is projected to decline, and an increasing share of Virginia’s highway resources will be devoted to maintaining the current system. At the same time, the cost of highway projects – in terms of land acquisition, construction, and mitigation – is rising. The Commonwealth has responded to these challenges by exploring innovative public/private partnerships to fund and deliver needed highway improvements.

The VSRP suggests a similarly innovative public/private partnership with our railroads to fund and deliver multimodal system improvements. In many cases – especially dense urban areas and intercity corridors – rail investments or combined rail/highway investments may be a more cost-effective and less impacting way to meet the Commonwealth’s transportation needs than highway-only investments. The various rail initiatives described above can help ensure that the worst-case scenario does not materialize.

## ■ Future Rail Investment Needs

### Unconstrained System Needs

As a first step toward defining Virginia's future role in its rail transportation system, the VSRP defines the total package of rail system investment needs associated with the existing rail system and with future rail initiatives, so that the magnitude and timing of the various funding requirements can be clearly understood.

Annual rail system needs through 2025 were determined based on unconstrained cost estimates (not limited by available or potentially available funding) provided by the railroads and by studies of major rail initiatives. These estimates were not validated by Virginia DRPT, and there was no effort to allocate program costs between various private- or public-sector entities. The estimates do not represent a public cost, or imply a public funding commitment – they simply represent an identified need, which may (or may not) be met by some combination of private and public investments.

For unconstrained needs associated with Virginia's existing rail system and major rail initiatives, the cumulative cost (in year of expenditure dollars [\$YOE]) is estimated at *\$2.7 billion* in the near term (2004 through 2010), and at *\$8.1 billion* cumulatively over the program period (2004 through 2025). Generally, these figures include needs to which Virginia might contribute, and exclude needs that Virginia would not support:

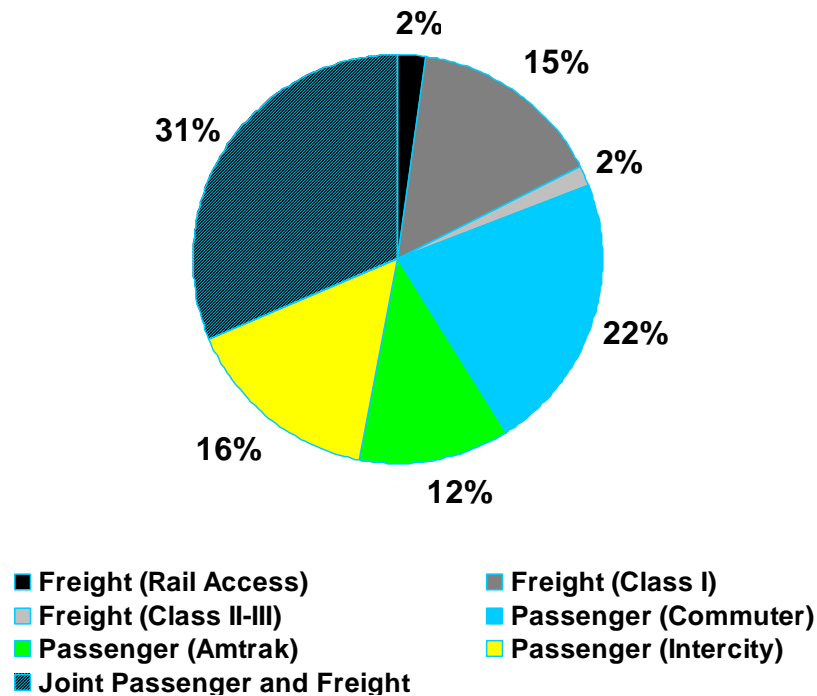
- **Freight Railroad Needs** – These are needs associated with Virginia's freight railroads that do not benefit passenger movement. Freight railroad needs are broken out by Class I, Class II-III, and Rail Access projects. In this category, gross capital investment needs are counted, but operating needs are not counted.
- **Joint Passenger-Freight Needs** – These are needs associated with major initiatives that will benefit both passenger and freight railroads. For example, the MAROps program will benefit Amtrak, VRE, and CSX, while the I-81 program will benefit TDX and NS. In this category, gross capital investment needs are counted, but operating needs are not counted. Only the joint-benefit portions of major initiatives are reflected in this category – for example, MAROps needs that do not benefit Amtrak or VRE are counted as freight railroad needs.
- **Passenger (Commuter) Needs** – These are needs associated with VRE. In this category, unfunded capital needs (needs not included in VRE's Capital Improvement Plan and not covered as Joint Needs) are counted. Also, VRE unfunded operating needs (needs not covered by projected revenues) are counted.
- **Passenger (Amtrak) Needs** – These are needs associated with Amtrak's current system in Virginia, and do not include the Joint Needs or needs associated with the various initiatives to extend high-speed service. In this category, unfunded Virginia operating needs (needs not covered by projected revenues) are counted. Virginia is not committed to funding Amtrak operations, but a Federal plan currently under

discussion would shift the burden of offsetting Amtrak operating shortfalls to the states, so this cost is included to reflect a worst-case scenario. Capital investment needs (historically a Federal responsibility) are not included in this category.

- **Passenger (Intercity)** – This includes the SEHSR and Richmond-Hampton Roads, TDX, and Main Street Station initiatives, over and above investments classified as Joint Needs. In this category, capital investment needs are counted, but operating needs are not counted.

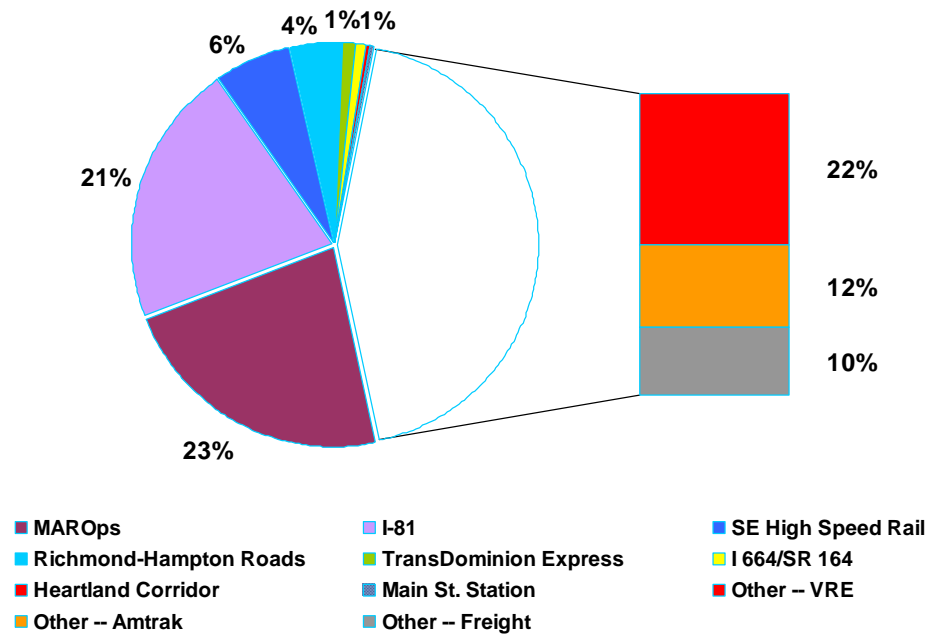
As shown in Figure 19 below, passenger-only needs account for 50 percent of the total \$8.1 billion need; joint passenger-freight needs account for 31 percent, and freight-only needs account for 19 percent.

**Figure 19. Unconstrained Funding Needs by Type, Through 2025**



As shown in Figure 20 on the following page, around 56 percent of the total need is related to major program initiatives: 23 percent for MAROps, 21 percent for the I-81 Corridor Rail initiative, six percent for the SEHSR initiative, four percent for Richmond-Hampton Roads high-speed rail, one percent for TDX, one percent for I-664/Route 164 median rail, and less than one percent each for the Heartland Corridor Double-Stack initiative and the Main Street Station initiative. Around 44 percent is related to other system expenses: 22 percent for VRE, 12 percent for Amtrak, and 10 percent for the freight railroads.

**Figure 20. Unconstrained Funding Needs by Program, Through 2025**



## Alternative Investment Strategies

The amount of funding – both private and public – that will be available to meet these needs over the next 25 years is not known. Therefore, the VSRP recommends that the unconstrained needs be considered in terms of three major scenarios, corresponding to different levels of rail system investment:

- The **Status Quo** scenario aims to ensure the safety and security of the current rail system, and to maintain the system in an overall state of good repair. It includes the short-line railroad needs for which funding currently is available through Virginia DRPT, some needs allocated to VRE, and selected joint passenger-freight and Class I freight projects.
- The **Virginia Strategic Investment** scenario aims to replace and upgrade system elements, provide new capacity, and improve service speed, reliability, and availability. It includes the Status Quo projects and adds: significant investment in the I-81 Corridor; investments identified in MAROps that benefit both passenger and freight rail service; VRE network expansion; the Richmond to Hampton Roads high-speed rail service; SEHSR service; selected Class I projects; the I-664/Route 164 Median Rail Proposal; and the Heartland Corridor Double-Stack initiative.

- Finally, the **Fully Integrated System** scenario aims to build on the Status Quo and Virginia Strategic Investment scenarios by meeting additional needs to allow for: full build out of the I-81 Corridor and MAROps projects in Virginia; construction of remaining Class I projects; full expansion of VRE services; development of TDX; and fulfillment of identified Amtrak needs in Virginia.

**Table 4. Investment Scenarios and Associated Needs (Cumulative)**

Scenario	2004-2010 Needs (\$YOE)	2004-2025 Needs (\$YOE)
<b>1. Status Quo</b> – Safety and security; state of good repair  Short-line railroad needs for which funding currently is available through Virginia DRPT, some needs allocated to VRE, and selected joint passenger-freight and Class I freight projects	\$811 million	\$1,957 million
<b>2. Virginia Strategic Investment</b> – Replace and upgrade system elements; provide new capacity; improve service speed, reliability, and availability  <u>Status Quo</u> plus: Significant investment in the I-81 Corridor; investments identified in MAROps that benefit both passenger and freight rail service; VRE network expansion; the Richmond to Hampton Roads high-speed rail service; SEHSR service; selected Class I projects; I-664/Route 164 Median Rail proposal; and Heartland Corridor Double-Stack initiative	\$2,328 million	\$4,971 million
<b>3. Fully Integrated System</b> – Build on the Status Quo and Virginia Strategic Investment scenarios by meeting additional needs  <u>Virginia Strategic Investment</u> plus: Full investment in the I-81 Corridor and MAROps; remaining Class I projects; full expansion of VRE services; TDX; and Amtrak needs	\$2,671 million	\$8,062 million

**Table 5. Scenario 1 – Status Quo Needs (Cumulative)**

Category	Subcategory	2004-2010 (\$YOE, thousands)	2004-2025 (\$YOE, thousands)	Average Annual (\$YOE, thousands)
<b>Passenger</b>	Commuter (VRE)	\$383,993	\$1,337,339	\$60,788
	Intercity	14,053	60,690	2,759
	Amtrak	0	0	0
	<i>Passenger Subtotal</i>	<i>\$398,046</i>	<i>\$1,398,029</i>	<i>\$63,547</i>
<b>Freight</b>	Class I	\$246,924	\$253,813	\$11,537
	Class II-III	69,829	138,114	6,278
	Rail Access	23,677	94,359	4,289
	<i>Freight Subtotal</i>	<i>\$340,430</i>	<i>\$486,286</i>	<i>\$22,104</i>
<i>Joint Freight &amp; Passenger</i>		<i>\$72,546</i>	<i>\$72,546</i>	<i>\$3,298</i>
<b>Grand Total</b>		<b>\$811,022</b>	<b>\$1,956,861</b>	<b>\$88,948</b>

**Table 6. Scenario 2 – Virginia Strategic Investment Needs (Cumulative)**

Category	Subcategory	2004-2010 (\$YOE, thousands)	2004-2025 (\$YOE, thousands)	Average Annual (\$YOE, thousands)
<b>Passenger</b>	Commuter (VRE)	\$439,645	\$1,466,700	\$66,668
	Intercity	501,314	961,556	43,707
	Amtrak	0	0	0
	<i>Passenger Subtotal</i>	<i>\$940,959</i>	<i>\$2,428,256</i>	<i>\$110,375</i>
<b>Freight</b>	Class I	\$631,723	\$788,393	\$35,836
	Class II-III	69,829	138,114	6,278
	Rail Access	23,677	176,299	8,014
	<i>Freight Subtotal</i>	<i>\$725,229</i>	<i>\$1,102,805</i>	<i>\$50,128</i>
<i>Joint Freight &amp; Passenger</i>		<i>\$661,378</i>	<i>\$1,440,376</i>	<i>\$65,472</i>
<b>Grand Total</b>		<b>\$2,327,566</b>	<b>\$4,971,438</b>	<b>\$225,974</b>

**Table 7. Scenario 3 – Fully Integrated System Needs (Cumulative)**

Category	Subcategory	2004-2010 (\$YOE, thousands)	2004-2025 (\$YOE, thousands)	Average Annual (\$YOE, thousands)
<b>Passenger</b>	Commuter (VRE)	\$439,645	\$1,781,270	\$80,967
	Intercity	524,524	1,275,404	57,973
	Amtrak	238,996	952,456	43,293
	<i>Passenger Subtotal</i>	<i>\$1,203,165</i>	<i>\$4,009,130</i>	<i>\$182,233</i>
<b>Freight</b>	Class I	\$678,383	\$1,199,088	\$54,504
	Class II-III	69,829	138,114	6,278
	Rail Access	23,677	176,299	8,014
	<i>Freight Subtotal</i>	<i>\$771,889</i>	<i>\$1,513,501</i>	<i>\$68,796</i>
<i>Joint Freight &amp; Passenger</i>		<i>\$695,689</i>	<i>\$2,539,390</i>	<i>\$115,427</i>
<b>Grand Total</b>		<b>\$2,670,744</b>	<b>\$8,062,019</b>	<b>\$366,455</b>

These scenarios differ not only in terms of their approaches and costs, but also in terms of their anticipated benefits. The Status Quo scenario returns positive public benefits from a lower level of investment, while the Virginia Strategic Investment and Fully Integrated System scenarios return progressively greater public benefits from progressively higher levels of investment.

## Funding Opportunities and Prioritization Strategies

A variety of private and public funding sources is available to implement these VSRP rail improvement scenarios. However, the specific amounts associated with these sources are unknown. Private industry funding depends largely on quarterly revenues and the cost of borrowing. Federal revenues depend on a variety of programs that are periodically reauthorized, and may (or may not) include vitally needed earmarks. It is hoped that pending Federal transportation legislation will provide additional funding for rail programs, but this is far from certain, and there will be competition for any available funds from other states.

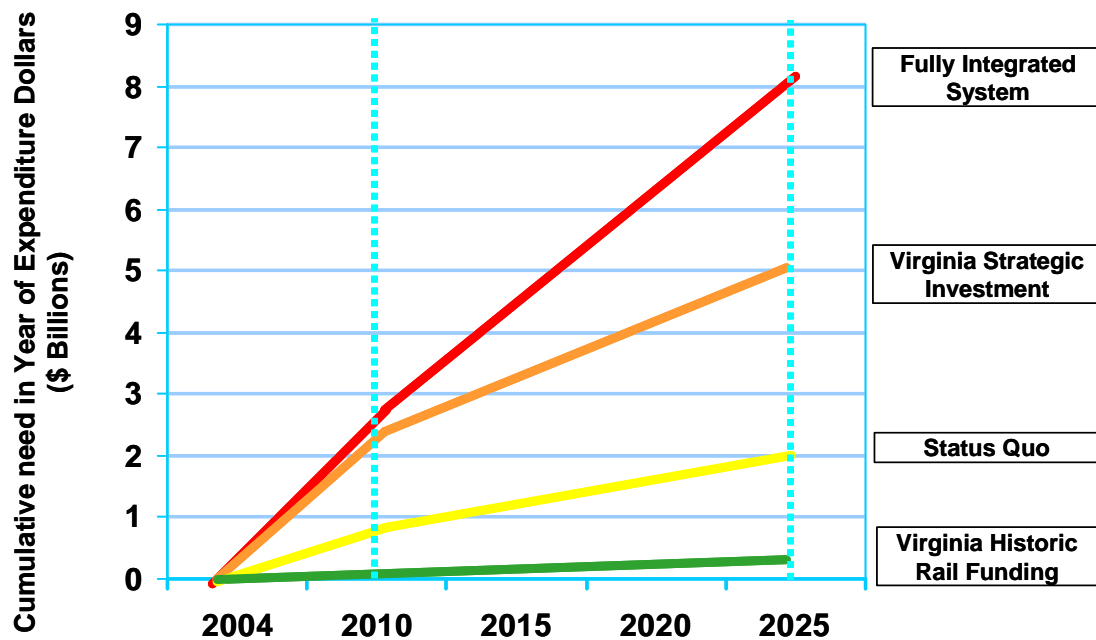
**Table 8. Rail Program Funding Sources**

<b>Funding Sources</b>	<b>Passenger Programs</b>	<b>Freight Programs</b>
Federal	FTA and STP funds, Federal earmarks	Dedicated annual funding for Section 130 Rail Grade Crossing Safety program; one-time allocations from grant and loan programs; Federal earmarks
Virginia	Transportation Trust Fund formula transit grants; local general funds; special one-time allocations	Virginia DRPT's Railroad Industrial Access and Rail Preservation programs; special one-time allocations
Railroads	Farebox revenues	Private funding process based on business objectives, revenues, cost of capital

Virginia lacks a dedicated, steady source of funds to invest in rail. Under the Transportation Trust Fund formula, 78.7 percent goes to highways, 14.7 percent for transit, 4.2 percent to the Virginia Port Authority, 2.4 percent to airports, and zero percent to rail. The Commonwealth's current rail freight programs (Rail Preservation and Industrial Access) must be funded through a biennial appropriation, and funding is limited to \$5.0 million to \$6.0 million annually.

Figure 21 on the following page compares historically funded Virginia rail programs (Railroad Industrial Access and Rail Preservation) with the various VSRP needs scenarios. (The funding line does not include anticipated passenger transit funds, because these funds – in the form of Federal allocations, Virginia allocations, and farebox revenues – were used to reduce the level of rail system need when the scenarios were developed.) As shown in Figure 21, these program funds fall dramatically short of meeting any of the VSRP needs scenarios.

**Figure 21. Virginia Rail Program Funds versus Rail Needs (Cumulative)**



Clearly, there is a huge gap between Virginia rail program funds and Virginia’s rail needs. We can reasonably expect that some part of this gap – perhaps a substantial part – will be addressed by future Federal and Virginia allocations for passenger transit, by one-time Federal or Virginia allocations for rail freight, and by the railroads themselves. But without stable, reliable rail funding programs in place, it is impossible to know how big this gap will be in any given year. Needless to say, this poses a daunting challenge to long-range capital planning for rail investments.

However, what seems clear, based on historic and current funding sources and levels, is that neither the private or the public sectors alone will have sufficient capital for the investments needed to allow rail to reach its full potential in meeting the Commonwealth’s transportation needs. Some form of innovative financing – with public participation leveraging private investment – will be essential.

- One opportunity could be termed “program mining.” This entails stretching the eligibility limits of existing highway-oriented transportation programs to fund “non-traditional” (e.g., rail) improvements. In recent years, Federal CMAQ program funds have been used to build intermodal rail terminals and other rail improvements where a clear highway benefit could be demonstrated. Similarly, Federal STP funds have been used for projects that benefited both the rail and highway systems, such as the reconstruction of highway overpasses to provide additional height clearance for the railroad. Federal loans supported construction of the Alameda Consolidated Transportation Corridor, a 26-mile grade-separated rail corridor between the Ports of Los Angeles and Long Beach to major regional railyards.

- Another opportunity is the innovative use of state taxing and bonding authority. In Missouri, the State assisted the freight railroads in forming a tax-advantaged partnership to issue bonds for the construction of a rail-rail overpass. The State of Delaware provided the up-front capital for restoration of an historic rail freight connection to the Port of Wilmington, and its investment will be paid back out of private railroad revenues from traffic over the connection. A similar type of payback-from-tolls mechanism is being used to retire hundreds of millions of dollars in bonds that were issued for the Alameda Consolidated Transportation Corridor.

Regardless of funding sources and availability, the Commonwealth will need to carefully prioritize its involvement in rail programs to realize the best public benefit return on its investment. Table 9 below offers a potential strategy for project-level prioritization.

**Table 9. Potential Prioritization Criteria for Rail Projects**

Scenario and Vision	Public Benefit Criteria
<p><b>Status Quo</b> Virginia remains committed to its historic rail program obligations.</p>	<p>Highest priority on safety, security, maintaining overall state of good repair. Specific criteria include:</p> <ul style="list-style-type: none"> <li>• Existing benefit/cost ratio for the Rail Preservation Program.</li> <li>• Existing point methodology for the Rail Industrial Access Program.</li> <li>• Existing VRE programming methodology.</li> </ul>
<p><b>Virginia Strategic Investment</b> Virginia is committed to exploring partnerships and participation with the private freight railroads and intercity passenger operators to implement critical projects.</p>	<p>Emphasis on replacing and upgrading system elements, providing new capacity, and improving service speed, reliability, and availability. Specific criteria in addition to safety, security, and state of good repair could include:</p> <ul style="list-style-type: none"> <li>• Improved capacity and service speed, reliability, and availability.</li> <li>• Improved transportation choices and intermodal connections.</li> <li>• Increased employment, business competitiveness, and local tax base through industrial attraction and expansion.</li> <li>• Congestion mitigation and improved air quality.</li> <li>• Cross-modal benefit/cost and ability to work in tandem with highway investments (through avoided or reduced highway construction and maintenance costs).</li> <li>• Viability and sustainability of private commitment to meeting performance goals related to public investment.</li> </ul>
<p><b>Fully Integrated System</b> Virginia is committed to building upon the Status Quo and Virginia Strategic Investment scenarios to meet additional needs.</p>	

## ■ Recommendations

The Governor, in establishing his Commission on Rail Enhancement for the 21<sup>st</sup> Century, has placed a high priority on defining Virginia's position with respect to rail. It is anticipated that the Commission will develop a series of specific strategies and recommendations over the course of its work. To support the deliberations of the Commission, the Commonwealth Transportation Board, and other key partners in the Commonwealth's multimodal transportation system, the VSRP offers the following broad-based policy-level recommendations. These recommendations, and the other data and findings developed in the VSRP, are intended to serve as a "jumping off" point for future rail planning in Virginia, and for the resolution of critical issues regarding overall vision, governance, funding, and program delivery for Virginia's passenger and freight rail system.

### *A Vision for the Future of Rail in Virginia*

**Recommendation #1:** The Commonwealth should endorse the VSRP's rail vision, rail system goals, and overall investment prioritization criteria, as a guiding framework.

**Recommendation #2:** The Commonwealth should, as a matter of broad transportation policy, recognize its willingness to invest public funds in its private rail system, where such improvements contribute to overall multimodal transportation system improvements and achieve appropriate public benefits.

**Recommendation #3:** To provide additional direction, the Commonwealth should endorse one or all of the VSRP rail program alternatives, and potentially identify specific high-priority projects from these program alternatives for fast-track analysis and, if warranted, implementation.

### *A Governance Structure to Guide Rail Investments and Ensure Multimodal Coordination*

**Recommendation #4:** The Commonwealth should address and resolve the issue of the appropriate institutional structure to identify and implement rail improvements in Virginia, building on the findings of the recent Rail Transportation Development Authority Study Report. Such a structure should be empowered to negotiate and formalize public/private partnerships, administer long-range funding for passenger and freight rail programs, develop and implement recommended rail improvements, and generally advance the VSRP strategies within a larger public policy framework.

**Recommendation #5:** It is further recommended that such a structure be multimodal in nature to ensure effective coordination with highway, port, and airport improvements and needs. As envisioned by the VSRP, rail investments are not intended to compete with, or reduce available funding for, other needed transportation system investments – rather, they are intended to support an overall multimodal investment strategy, and provide the greatest overall transportation and economic benefit in the most efficient manner possible.

*A Realistic Funding Program to Implement the Rail Vision and Program*

**Recommendation #6:** Virginia DRPT should work with the Commission, the Commonwealth Transportation Board, and other key players to identify creative strategies to increase the amount of Virginia funding potentially available for rail passenger and freight improvements, and to develop a reliable funding pool or program from which substantial, sustainable funding commitments can be made.

**Recommendation #7:** Virginia DRPT and its partners should identify creative programs to use these funds and other governmental powers to leverage private investment in Virginia’s freight and passenger rail systems, such as: loans secured by rail revenues or surcharges; use of state bonding authority; tax relief; right-of-way assemblage; joint development with some resources remaining publicly-owned; or other support.

**Recommendation #8:** Virginia DRPT and its partners should seek to maximize the participation of the private sector in rail improvement projects, and establish formal responsibilities and performance standards for the railroads in return for public participation. Recognizing that business conditions tend to change more rapidly than public needs, both sides need to be assured of long-term, sustainable, “win-win” scenarios.

**Recommendation #9:** Upon establishment of an appropriate governance structure and preliminary development of a funding strategy, Virginia DRPT and its partners should revisit the Needs Assessment component of the VSRP to refine estimates of need versus available funding, and to re-prioritize programs and projects where necessary or appropriate.

*A Continuing Commitment to Rail Program Delivery and the Goals of Safety, Security, and Maintaining a State of Good Repair*

**Recommendation #10:** Virginia DRPT should continue to provide its traditional program support and functions – including programs in place, partnership initiatives with Virginia’s passenger and freight railroads, coordination and leadership of studies of the various rail initiative studies, and coordination with other states as part of larger regional and multistate rail planning initiatives.

**Recommendation #11:** Virginia DRPT should work with VDOT and the railroads to identify hazardous highway grade crossings, improve crossings, conduct public education campaigns including Virginia Operation Lifesaver, and actively monitor progress toward the reduction of grade crossing accidents.

**Recommendation #12:** Through its Rail Preservation Program, Virginia DRPT should continue to work to preserve the viability of Virginia's rail network and corridors through strategic programs to keep short-line operators viable and, where necessary, preserve the existence of a rail corridor or local service. Virginia DRPT should consider the expansion of this program to "land bank" abandoned rail corridors and rights-of-way for potential future use.

**Recommendation #13:** Virginia DRPT should support efforts to modernize the rail system to accommodate double-stack intermodal trains and 286,000-pound railcars. Virginia DRPT should also support efforts to improve schedule reliability, reduce delays, and provide faster travel speeds through signal and other operational improvements. These initiatives are part of the VSRP program alternatives, but might be funded through an expanded Rail Preservation Program.

**Recommendation #14:** Working with transit providers and local agencies, Virginia DRPT should encourage and facilitate improved access to commuter and intercity rail, along with the efficient transfer of passengers between modes.

**Recommendation #15:** In partnership with the Virginia Port Authority and Virginia's trucking community, freight shippers, and freight railroads, Virginia DRPT should work to promote and facilitate the use of highway-rail and water-rail intermodal services.

**Recommendation #16:** Virginia DRPT, through its Industrial Access Program, should continue to develop rail connections to Virginia businesses to increase their economic competitiveness and maximize their transportation options. Expansion of the program to increase the reach of rail freight, and to facilitate attraction of rail-served industrial development, should be strongly considered.

**Recommendation #17:** Virginia DRPT should pursue more detailed quantitative investigations of the public benefits and capital/operating costs of the VSRP rail improvement scenarios and their component programs. Furthermore, Virginia DRPT should use these findings to develop meaningful comparisons of rail benefit/cost factors versus investments in highways or other modes. The purpose is to identify the projects and programs that provide the most benefit for the least cost, and that represent positive alternatives to highway improvements, to provide Virginia's residents and businesses with the best possible multimodal transportation system for the least possible cost and impact.



The *Virginia State Rail Plan* was prepared under the direction of:

Whittington W. Clement, Virginia Secretary of Transportation

*and*

Virginia Department of Rail and Public Transportation

Karen J. Rae, Director of Rail and Public Transportation

William C. LaBaugh, III, Planning Programs Manager

George R. Conner, Director of Rail Transportation

Alan C. Tobias, Rail Passenger Projects Manager

Kevin B. Page, Rail Development Programs Manager

*with the assistance of*

Cambridge Systematics, Inc.

Jacobs Civil, Inc.